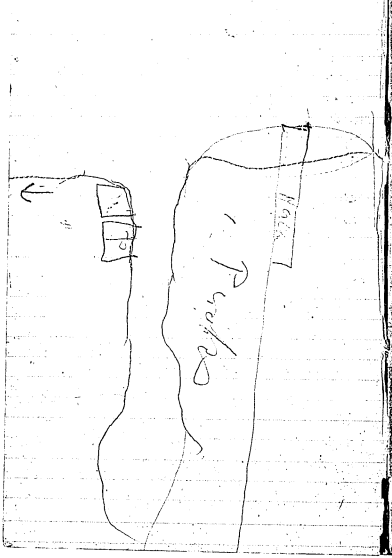
Notebook, N-04-03-05

This notebook contains dated entries from March 1904. All entries are by Edison. Most of the notes and drawings relate to storage batteries. Included are items pertaining to the composition of the grids, separators, and electrolytic solutions used in the cells. There are also notes concerning compounds for use in alternating current rectifiers and phonograph cylinders; and a 3-page memorandum concerning the organization of a company to manufacture and sell batteries, possibly in Germany. The pages are unnumbered, and at least one page has been removed from the book. Approximately 70 pages have been used.

X E 172 040305 N-04-03-05



Myers March 5 1904

213

Precipitate together from the soluble salts.
from 90% X 10% - ~~Use excess~~ KOH to evap to much dry + then remove free basic salts + try a pocket direct -
Try another portion, reduced by Hydrogen + mixed with Mercury only 15% - Another part without Mercury -
Following metals 10% - Zinc Tin, Lead, Copper, Cadmium Antimony Bismuth, Nickel, Cobalt, Manganese, Cerium, Tungsten, Molybdenum Uranium Vanadium - Chromium - Silver,

Since we get over 100 mil amp hours to 1 Volt with Bismuth hydroxide - whereas 80% of it only gives .40 to Volt there must be some unknown metal in it which has an Endothermic reaction oxide, Make a lot of Experiments by fractional precip + crystlzn + alternness to seperate it, + use the Cell as a test an measure in the Milamp hours to a Volt from the indicator

Mch 5 1904

For battery plate separator, try minimum amount of Magnesia that can be put in stick form using Rubber dope as a binder alone – also sheet treated with vapor of CS_2 – also flowers sulphur incorporated in dope – also Rubber + sulphur dissolved in Bi Sul Carbon + used as binder + then Vulcanized by steam

Also try Nitrate Nickel as binder for Magnesia, – ignite, thus make Ni_2O_3 –
also try acetate Iron, Nitrate Fe syrupy as binder, – also acetate Magnesia, syrupy Bismuth hydroxide + heat,
Try as binders, asphalt, asphalt with S
Asphalt in CS with S, + Vulcanize –
Try Carb Sr Ba, as base – Oxalate Ca
Ba Sulphate,
For binders search Watts for bodies of Resinous character insoluble in Alkalis – of organic nature
Remember Carpenter Chloride Asphalt got so by Sulphur.
Try Balata – Gutta percha as binder

Mch 5 1904

Use as a rectifyer for alternating CO_5 Cells in KOH plain Ni or amalgamated Fe possibly some radical in KOH up to Certain amount at first.

~~Ok~~ its not reversible,

Could use mounted parchment paper KOH, just damp a plain Ni or Fe or Fe plated Ni or plain Fe - make ~~[illegible]~~ used like a dry Condenser,

For recording matter Cylinder use the amides of the fatty acids, also Ammonium Salts - They are flexible & Easy to cut, They can be shaped to get right proportions -

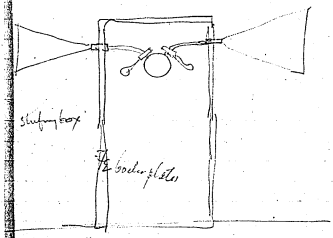
possibly with Sleeramic Cones

use sunrow record as it can be cut deep & use Saphire point

March 5 1904

Make a double phono record master with two different times on. Time. –

An iron chamber of Gordon plate + two recorders



Record simultaneously –

Get some of the sticky Petroleum residue called "Bull S" & distill down see if can get lamp oil for phono work.

Mch 5 1904—

Acridine - a base not attacked by KOH. not oxidized
Aniline black powerful base insol KOH
The green salt I got with HCl. Chlorate. should have been bleached with KOH to free the base —
Triphenylmethane in Gallein grid ~~also~~ as well as bonder for separation —
Benzamide & Anthraldehyde - see Wolff 2nd Sup 80
Chrysaniline Orange Mp 225° unattacked upon by KOH.
Anthrachrysone 2nd Sup 86 — " "

Abietin, not attacked or by KOH.
Monochlorobenzol unattacked not attacked by KOH — aromatic odor boils 155 Cent.
Nap dew 5.32 perfectly neutral —
Dichlorobenzol 2P. 180° aromatic odor of the not attacked by KOH.

Gaseous Hydrogen is passed into acrolein
Tissol — acids or alkali - Cottam Medine

Amarine not attacked by fused KOH Solid Resin
~~Amarose~~ Amarone not discovery by Alcoholic KOH Resin —

[illegible]

Cocaine [illegible] Trichloroethylene [illegible]
Insoluble [illegible] 100 C not attacked by
Cooking KOH —

Chinosol unaffected KOH, [illegible]
Cooking. 152 C

Nitranisol [illegible]
[illegible] — [illegible] 760 [illegible] [illegible] H_2O
Not affected by Cooking KOH.

Chrysoidine [illegible] MP [illegible] unaffected KOH

Benzilim not affected by Cooking KOH
MP 130 C [illegible]

Benzoin - MP 120 C Cooking KOH [illegible] attack

Benzophenone MP 248 C not affected
KOH —

Benzostilbin, MP 244 — boiling KOH
of 12 without decomp —

Betulin a resin from outer bark of
Birch tree MP 200 C not changed
by KOH —

Hydroxylate of Cinnamone [illegible]
$C_{15}H_{12}O_2$ not affected by boiling KOH —

Cinnamone [illegible] MPoint 200 C.
loses H_2O on KOH,

Cinnamic Aldehyde heated
with 50% KOH from [illegible]
Ca Liquid SG 0.81 BP 171. C.

Cumarin, got by mixing 1 pt Sugar with
15 to 30 pts. dichloroacetic + evap to dry
& heating for few minutes to 120 C.
is not affected with KOH,
Some resinlike takes place with
other Carbon hydrates such as
Glucose Cellulose Dextrin —

Cumene C_9H_{12} BP 144°C. aromatic.
SG 0.87 – not attacked by fused KOH –

Cumene salicylous anhydride (see Cumenic anhyd) not attacked fused KOH

Cumarethane not attkd KOH MP 190°C
colourless crystals sub –

Cymene oil. SP 0.87 BP 175°C
Aromatic, not attk KOH

Dammara Resin – not attkd by KOH
except acid part – quod –

Ethylenic Oxide with Aldehyde
Not attkd KOH. SP – 1.0002 at 0°C
BP 82 –

Guaiacine SP. 0.187 BP 118 C
not affected by KOH –

Helenin. – solid insol H_2O MP. 72 BP about
275 not affected KOH in water or alcohol

Helenene a hydrocarbon liquid. Insol water
BP 275.

Heptyl Chloride. SG. 0.89 – BP 160 C
aromatic unaffected by Boiling KOH,
26.6% Chlorine not, burns smoky green
bordered flame –

Hexylene Chloride, Dichlorhexane Water
Aromatic BP 191 C 42% Cl.
Boiled for some time in alcoholic KOH
decomposed with HCl + another Chlorinated C

Hydrobenzoin. solid – not affected Boiling
KOH, Dilute alcoholic –

Hydrocinnamide – solid not affected by boiling alcoholic KOH –

Ichi Resin – one resin ingredient not soluble in KOH –

Indigo blue natural KOH –

Iodoform not sol. CH_2O in alkali or acids – decomposed by boiling KOH

Note = Thank Mr. Wm. Gunter of Brown with plenty of Graphite would do as a practical demonstration for Lecture

Marrubiin not affected by KOH

Melene – paraffin wax not affected boiling KOH

Mesitylene —
BP 155° aromatic – light oil –
Not decomp by KOH aq –

Trichloromesitylene solid not decomp
even by Resorcinol & KOH –

Mesitylene dilo –

Chloronaphthalene not attkd KOH
oil – get spec g

Dibromonaphthalene MP 59 not
attk) KOH

Hexachloronaphthalene Wax
MP 140 C Cambe bent
Rosette Crystals Unattacked by KOH

Octyl alcohol BP 180 - SG 0.82
Insol H_2O
Chloride insol H_2O, hydrolyses slowly H_2O
Sp grav 0.89 burns smoky green flame - Unsat unaffected KOH, both aromatic -

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Morcrin - solid insol alcohol KOH, insol H_2O -

Oxynaphthylamine - amorp powder
Insol NH3 or KOH, insol H_2O
$C_{10}H_9NO$ — dis oxidized Naphthylamine — poisonously bitterly - it combines with Neither acid or alkali

Palmitone, Ketone of Palmitic a - MP 84
insol alcohol KOH

Anthracene unaffected by alkalis

Oxanthracene solid m.pt. not affected by NaOH [illegible] –

Phenol not affected by KOH BP 187 floats on water sp. gravity [illegible] 0.8 [illegible] dissolved not [illegible] probably through [illegible]

Ethylic phenate, (Phenetol) – BP 172 aromatic, not affected by KOH.

Bromophenol MP 164 – not affd. by alcohol for KOH. [illegible]

Monobromobenzene not affd. [illegible]

Chloride of Phenyl - BP 138 C
not affected KOH -

Phenyl Sulphide prepd -
BP 292.2 C aromatic insol H_2O
not affected boiling KOH water of
crystallisation - Spec g 1.09

Tribromophenylamine
Crystl MP 117 BP 304 insol H_2O
Sol alcohol AgN
KOH hydrolysis at boiling heat.

Cyanaline - Crist. MP 210
Neutral insol H_2O not affected
by boiling dil KOH -

Mononitrophenylamine
action of Bromine water Resin
not affected by KOH -

See all the Anilines yes, with KOH —
to get the bases they are good for,
indigo for separators, also bring the as
bases into Bromic acids for phenol —

Pyrotartrimide its solution from
with Ether hand a very alkaline
solution, dries to varnish —
The solution attacks paper
rendering it viscous regelatinous. S.

Pyrrol BP 133 — finely aromatic,
insol KOH — it, decidedly basic —

Pyrrol Red a solid insol KOH
or acids —

Quinoidine, a base got in mfg
quinine, Resin, insol KOH —

Styrylamine — a base solid
insol KOH melts by yellow
oil Volat at 100 —

Phenylsuccinimide —
Cryst - subl — 60. KOH aq no action

Saccharin — not sol KOH,
Cryst MP 128 —

Thymol — cryst - insoluble
MP 45 — insol KOH —

Chlorotoluene BP 157
sp g 1.050 at 14 C S —
Not affected by KOH —

Acenaphthene not attk KOH,
MP 100 - boils 274 — solid,

Methylacetal, not attk KOH,
SG 0.85 boils 55 C S sol H_2O —

(Phosphomolybdic acid is a delicate test for KOH, 1 pt to 500, gives yellow sol precip – Na no precip – Can this be utilized in testing –)

Anthrachrysin black mass insol in KOH, alcohol ether H_2O or NH_4Y –

Hydranisoin Salol MP 172 not attk [illegible] or [illegible] KOH –

Anthracene Hydride MP 106 – Not attk KOH –

Dibromoanthracene Compt MP 221 C Not attk and by KOH or Alcoholic KOH. Decompt at 160 C

Dichloroanthracene MP 205 C Not attk KOH sol

Little Tetrachloroanthracene MP 220

Anthraquinone MP 273 not only by strong oxidizers not attk by Alcoholic KOH or even fusion with KOH

Nitro-Chlorbenzene Fritzsche
Reagent - Coal — with no alcohol
Hydrocarbons —

Hexachlorobenzene MP 226 BP 331
difficultly
alkali by Potash —

Monoiodobenzene - Beyond aromatic
boils 185 SG 1.84 —
not decomp by solid Potash or
alcoholic KOH or KOH Hydrate

Sulphobenzide solid (naphthalene)
Alcoholic KOH - warm at 180 in sealed tube
MP 125 C

Dichlorosulphosanilide. oil. heavier than H_2O insol. H_2O faint odour, like Camphor Distls. 300° not affected by alcoholic KOH or H_2SO_4 –

Toluene in alkaline Pot. permanganate gives Benzoic acid & neutral salts & chromate by insol. H_2O & alkali

Dibromotoluene MP 107. not attkd alcohol KOH – or oxyd by $BiCrO_4$ SO4

Sulphotoluide MP 155 insol. H_2O not attkd alcoholic KOH –

Tolyl Bromphide not attkd KOH

Dibromoxylene. MP 69 unattkd alcoholic KOH

Monobromocamphor, BP 218 SG 1.32
not alkali alcoholic KOH)

Monobromocresol tyfano -
oil aromatic SG 1.31 at 10 C
BP 225° not alkali KOH and only at very Temp

Bismuth aromatic hard red resin
dissolves Ether 15 100 C — scales like
dissolves forming 2 layers one of
which is a compound of Bi Br3 & Ether
Bin Compound decomposes ??
Pt Sup 347 —

Brominated Camphor, Monobromo C
aromatic - Solid MP 76 - not
decomp by alcoholic KOH.

Camphor heated for 3 or 4 hours
with alcoholic KOH is converted
into a soft tough yellow resin
which is insoluble in water
by prolonged heating to 100 C

Monobromoacetic Lighter than water not soluble KOH –

Condition – by boiling dilute acids Resin formed usual KOH test 1st Sup 459

Bromacetyl Chloride in Ether
Bromacetyl – nearly insoluble –
BP 245 SG 0.9735

Ethoxyl-acetamide – usual KOH – 1st Sup 585

Note Sodium Ethylate White amorphous infusible very hygr. sub Phenol in Ether
Indol in ether turns Brown air
Phenol? –

[illegible] Methylchloride [illegible] in
Dichlorophenol Ethyl Oxide —
Liquid BP 157 — Jaromatic
heavier than H_2O not attacked by
Boiling KOH aq — No
Methylchloroformate & Ethyl Oxide
1st Sept. 1897 —

Diethylene bisulphide, [illegible] SO_2
MP 111° Sulfur at 56 — BP 200,
has strong rat nauseant odor
that attacked by alcoholic KOH —

Glycoliquose a substance remaining
after extracting the wood of the spruce
fir (Abies Pectina DeCy Pinus Abies L.)
with dilute acetic acid. Weak [illegible] Glucose
its yellowish white mass in all liquids
possibly not affected by KOH —

Grahamite, pitchy fossil or mineral
found in Ritchie & Virginia
Insol KOH or alcohol partially
in Benzol & Chloroform CS + Benzol
Soften 200 76 C 7 H 13 O, 13 ash

Guanidine, 1st Supp. 674 See Melamine
Insol used in alcohol

Same – paraffin MP 56 Cent boiled
3 or 4 days with Sul acid + K Bichrom
to which a little Mang Dio is added
in Connected with Cerotic acid
Melting 78 Cent? — in the Compds
Same paraffin heated with 5 or 6
Vols Nitric dilutted with 1½
Vols water yields, instead of fatty
acids melting after purification
76 Cent.

Lumacoid 1st Sup water - anhydride of Lanolin A - perhaps [illegible]
Cholesterol -

Tetrabromonaphthalene Crystl
not affected by alcoholic KOH -

Tetrachloronaphthalene -

Cyanonaphthalene 1st Sup - 547
B Cyanide - Lamina and like Stearine
MP 65 - [illegible] white mass
Phenol -

Dibromonaphthol - MP 215 - Crystl
not affd KOH, 1st Sup 855

Tetrachlorohydroquinone - 1st Sup 988
[illegible]
Diethyl-tetrachlorohydroquinone
MP 112 - not affected by KOH Lye
also Diacetyl -1

Sup 994 [illegible] brick red powder
Not dissolved by KOH aq — or ethyl by Chromic A
Sol Benzol —

Wells 1st Sup 1014
Sa [illegible] 9/10 [illegible] as it passes over
in the 1st distillation bet 230 & 238 C
Consists of Safrol — $C_{10}H_{10}O_2$
usual water S G 1.114 at 0 cent
[illegible] liquid at —20 cent.
Converted by Alcoholic potash at
180 To a black [illegible] Resin
by action at 120 C
Safrol is converted by
[illegible] to a
Black [illegible] mass of Metacellonsafrol
Same thing produced by 1 pt Safrol
+ 1 pt Bromine —

Methyl Potash will act on Safrol with
difficulty —

Reminders Lines conducting more
Conducting Sulphides together
+ Cast —

Wells 1st Sup 1090 Ethyl-Phthymal
aromatic liquid insol H_2O boils 222
OX chloroform KOH dont attack
even when heated —

1st Sup 1106 — Diethyl-trichloroketohydroquinone
MP 177 dissolves in H_2O not
attacked soda lye even heated —

Benzamide 2nd Sup 50
MP 192 Crystal insol H_2O not
affected by KOH —

Anthracene Orange 2nd Sup 86
MP 225 ? Sublimes
KOH have no action, HCl no action

Anthrachrysone. 2nd Sup 86 –
Green prisms. Does not melt even at 320 Cent
Can be distilled unaltered decomp.
H_2O only dissolves traces – best solvent
Glacial acetic acid & other solvents. Insp –
Not affected by Sodium Amalgam –
Magnesium Salt canary yel ppt insp –
Barium Salt dark Crystals.
by fusing Anthrachrysone in ICK KOH
(large quantity) brown like substance formed.
Separation –

Diacetyl-chloranilinoanthrahydroquinone
2nd Sup 94 m.p. 202 not oxidized by SO_4H_2 CrO_3
Not affected by heating in KOH Spec g 1.3
but is by higher Conc

2nd Sup Azodiacetyl Blue
Dark purple needles from Conc alc. alcohol
Sol Ether insol H_2O –

Sup 140 - Monochloro-benzene.
Spec. g 1.12 at 0°. boils 131.
Not acted KOH, or K alone at and temp -

- Trichloro-benzene Crystl MP 17
boils 206 - strongly bitter. not impl. form. with alone. Spec. g 1.457
not acted by KOH in any form even by heat,

Dibromo-benzene MP 205 Not acted KOH - 2nd Sup 148 - Sol Chloroform.
Boiling Benzene 1 CS -

Ditto Tetra-bromo-benzene MP 320° - minutes heating to blacken ?

2nd Sup 159 - Benzyl tetrachloride, not acted on by boiling KOH, MP 153,

(2nd Sup 164 - Benzyl-tone - Diacetonide.
Crystl. Decomp. at 200 Slightly Sol H_2O
Not affected by KOH, Conc. or Dil. Hy -

Ind Sup 254 — Cantharidin

Sublimes, insol H_2O MP 238° boils 338 — not decomp by passing thru red hot tube, not decomp by prolonged fusion with KOH hydrate or heating to 200 in alcoholic KOH,

Ind Sup 316 — Chlorohydrins —

Dichlorhydrine heated with alcoholic ammonia yields KCl & Chlorohydrinamide

White crump insol H_2O Ether or Conc acids, not affected on boiling SO_4 Aqua Regia or strong KOH — on hot ignition & swells up enormously yields a perfectly transparent gelly

Ind 420 Bromocyanine — not affected by KOH,

Sup 61 — Cornel indigo purified on KOH lye dissolves out general impurities & leaves pure indigo behind

Contains acid groups, shaved with HCl leaves only 3½% — Cathcart

Boiling = 2nd Sup 637 = 636 –
[illegible] fractionate to 140 C
deposits some ferric oxide –

Smell of Naphthenic acid to Lubricating
oil – collected by by boiling in
glycerol [illegible]
brown [illegible]

2nd 891 – Nitrogen volume basic, ~~[illegible]~~
Cryst not sol in KOH –

2nd 891 – BP paraffin Butane 1
Pentane 38
Hexane 70
Heptane 99
Octane 124
Dodecane 202
Hexadecane 278

2nd Sup 140 - Acetophenone a basic
MP 130 not dis by aid but Sodium
ion and by Chromic a -

In Equally with Hydrolysis cross fritsch
Reagent to cross Phenol a to form
Stable Chlor derivs by KOH or Alky.

2nd 1125 Sulphotoluide
MP 155 Not alkd by alcoholic
KOH at 160,

2nd Sup 3 - Acetanilide - Chloride
with heat, gives Hydrochloride of
base which precipt by KOH
to amorp base

2nd Sup 138 Azophenin not alkd KOH
MP 224

3rd Sup Dinitrometatolubromobenzene
Not with KOH – M.P. 157

3rd Sup 209 Diphenylphthalidoxamine
M.P. [illegible] unchanged by acids
or alkalies

3rd 211 – See Sulphur in Dyes –
Probably that [illegible] other bases
precipitated by KOH – not soluble and
can be further changed by
treating with sulphur to
use for separation –

3rd 214 Nitrosoresorcyphenazoxonine
yellow oil – heavier than benzene
that volatile alone or with
vapor of water
& is quite insoluble in alkalies
probably it will sink in 20% KOH

[illegible] possibly [illegible] with [illegible]
[illegible] 12 [illegible]
xt. [illegible] must be
possibly [illegible]
[illegible] jellify — KOH.
[illegible] seems rather

[illegible] or [illegible]
[illegible] on aq KOH or alcoholic KOH
[illegible] pl —
3rd Sup p 555

[illegible]
[illegible] KOH — 3rd [illegible]

[illegible]
[illegible] alcoholic KOH
3rd 653

Nitromethane [illegible] / n. [illegible]
[illegible] KOH -
3P 672

[illegible] - used KOH Hormone all other
solvents [illegible] - 3P 677

Echinacoside - Elastic sub
[illegible] KOH - 3P 679

[illegible] Nitro - [illegible] Paraquinone
that filled by [illegible]
to 500 [illegible] - 3P 691

Nitrolyl-Methane [illegible] acetaldehyde
by Johnson - Formaldehyde
3P 298 C. 15

[illegible] - Cannot [illegible] [illegible]
be made [illegible] by Company
[illegible]
[illegible]
[illegible]

A very viscous sublimate at ord temp or above MP will dissolve lots of crystalline stuff from solid [illegible]
Unfortunately will ferment [illegible]
Thus no good for plant [illegible] glass [illegible]
Thus natural

Beer glass – 5.75 CaO 5 N_2O 18.6
Why of silica carefully [illegible] by bases as above were it dissolves in NaOH, possibly Silicate Soda with [illegible] of Mg. mixed as Gender & fused were [illegible] sepatelus –

Seal NaOH for 24 hours in 20% NaOH or 2[illegible] [illegible] glycerine

[illegible] Calcite [illegible] [illegible] seed [illegible]

Bird [illegible] wing by KHCl [illegible] & Water to [illegible] & [illegible] [illegible] KCl [illegible] by Hydrogen –

Isolepidin – 3rd Sup 1176
Not affected by alcoholic KOH,
becomes insoluble on prolonged boiling
ditto Oxyisolepidin –

Nitromanitan 3rd Sup 1267
by boiling with alcoholic KOH makes it a
black gummy non explosive
mass ?

Bromodimethylaniline 3rd 1308
Not affected by boiling Sodalye –
its usual in alcoholic KOH – b.pt 255
BP 247 – its a base –

Iododimethylaniline
a base – acts same as above.

Nitrosodimethylaniline
a base – insoluble KOH, p 1309
3rd Sup – MP 92 – slightly soluble
in a concentrated solution –

Dimethylaniline – phthalein –
Base – nat sal KOH nat alkd of 200
by KOH – 3rd 1310

See Rubidium product also a base

Nitroso naphthol,
3rd 1363 – α Nitroso-α naphthol
B Nitroso α Naphthol – Goth
[illegible] KOH –

1475 Methyloxysulphobenzide
Nat Sal KOH, MP 130 –
1475 Dinitromethyloxysulphobenzide
Crystl [illegible] KOH –

1514 – tri Bromo-m-xylenes
nat alkd by KOH alcoholic a

3rd 1515 High chlorinated m-xylenes
nat alkd by alcoholic KOH –

3rd 1570 Phlorobromin –
MP 152 – decomp at higher temp
insol H_2O not affected by boiling KOH,
boiling HCl or Na amalgam –

Pyrroline, 3rd 1728 – methyl, ethyl
derivs (pyrrolines) legumes BP
113 131 180 not affected by
KOH – legumes.

3rd 1994 Dinitrotoluene ~~Fused~~
Sodium amalgam gives black
unmanageable ulmin –

3rd 2032 Orthodicetylidigin
not affected Sodium Hg
MP 55 – Valerolactone ~~[illegible]~~
readily with water vapor

Tribenzoylene-Benzine 3rd 2041
Dont melt at 450 — not attacked
boiling Potash lye — or Bromine,

Vascoline a variety of Cellulose
not attacked by KOH except at 200
under pressure — Resinols of cresols
Contains 50% of it —

(Very elements of the amines, & have in
it — also Chemical Resinates —
the Ethylene ammonia bases are poly good —

Hydroxyacetal, anomalous liq BP 167
Ethanol amide — Rowdahl 69 Vol III Az

(Aldehyde ammonias in alcoholic Sol
shrinks on standing quickly on heating
giving amorphous Gases Cracked
Aldine bases — for phono

Bases — or Neutral

Thialdine — $C_6H_{13}NS_2$
p. 498 - Rotsch Monacid base

Glycocyamidine, or Glycolyl-Guanidine-base RTS. No 516 -

Creatine (neutral)

Creatinine, base -

Glyoxalin base

Oxamide (perfect neutral) white powder

Chloroxalethyline Base RTS No 533
only BP 217 | Narcotic smell - Tertiary base

Oxalethyline - Narcotic smell BP 212
Tertiary base

Propylene Oxide + all the hydrocarbon Oxides
Bases

Propylene-Diamine, Grace,

Note Ethyl Nickel acetacetate
Sol in Hot Benzene ? ? RTS 550
possibly some organic sol. of Ni can be
obs in Chloroform Benzene etc or
precipitated by 81 quinolo alkali to get
a sensitive oxide not hydroxide & —
formate, acetate etc —

Succinate of Ni is sol in Water,
only alkali + Mn & Mg salts are sol —
There is a strange for Ni —

B-Cyanopropionic acid - by heating
heating to boil with alkaline sol
of permanganate K, amorp yellow
white sediment 100 at 140 Grams
only Sol sol H_2O & alcohol
from Amorphous Salts, usually
red brown, not crystalline
RTS 592

Heptapropylene $C_{19}H_{36}$ boils bet 390 + 400 C.

Theobromine – Base
Caffeine "
Methyl-guanamine "
Alloxalidines — Bases.

Monacetic-Saccharose action acetic anhy + acetic glacial on Cane sugar – amorphous compound 834 – Rot δ – see

Cold H_2SO_4 act. on starch flour second acid sulphate formed these yield amorph sacts –

Gun Cotton is useful in lab for filtering gelatinous ppts & other highly oxydizing liquids –

~~From Cellulose Solution of Cellulose Nitrate~~
~~Treated by Potash Lye~~

(Cellulose Dinitrate dissolved in Caustic Potash Lye decomposes to a brown gummy mass —

Furfurin — base

The Sulphonic acids can be heated strongly without decomposition not attacked by boiling Caustic alkalies & only oxidized by Nitric acid with difficulty

Methylamine base
Di "
Tri "
Tetramethylammonium " Base

(Still Chloroform sunk in 20% KOH
at this o.p.c of 1.52 —
book 61 C

Tetranitromethane, $C(NO_2)_4$
Colorless mobile liquid
Crystalizes at 13° boils 126
Neither Explosive or inflammable
Thus poss good for Bathing

Ethylamines – Bases

Ethylhydrazine – base
Destroys Cork & also Rubber

Tetraethyl-tetrazone – base

Triethyl-phosphine – Explosive
Stable body not affected by
or KOH MP 44 BP 240

Triacetamide, perfectly neutral

propylamine base

Propyl pseudonitrol
solid. insol water acids or alkali

Isopropyl phosphinic acid
Salt paraffine lake III also
No 364 R+S MP 60 to 70 C

~~Trimethylcarbyl nitrite~~
~~Oil BP~~

Tertiary Nitrobutane, aromatic
peppermint smelling liquid
BP 110 to 130 neutral but acts
Br or KOH $(CH_3)_3 C.NO_2$ —

Butylnitrous Base

Hexachlorobenzene MP 226
insol H_2O not acted KOH
or boiling Conc acids —

Aniline bases
Chlorinated aniline Bases —

Metanitraniline not alkali
boiling KOH MP 114 - sulphate
Goods 285

Aminodiphenylamine Base in
Tropaeolin OO of Commercial —

Sulphones have neither acid
or basic qualities —

Mauveine - base of aniline dyes
Mauve - powerful base

1891 R.S.
Safranine - an aniline dye
powerful base in it
unaffected by KOH.
Sometimes called Toluidofranine
The base is a hydroxyl base possibly
work in place Ni hydroxide

The salts of Safranine not decomp. by KOH —

Experiments to make altitropic change in $Ni(OH)_2$ to get rid of swell —
Boil $Ni(OH_2)$ free of basic salts in olving solutions of following for 24 to 48 hours.

Chloride Zinc	Chloride Calcium
" Aluminum	" Barium
" Sodium	" Strontia
" Magnesium	" Lithia
" Cadmium	" Iron
" Copper cerium	" Ammonia

Ammonium Hydroxide

Sulphate Iron	Sulphate Copper
Potash	" Magnesia
Zinc	" Cerium
Magnesia	
Cadmium	
Ammonia	
Lithia	
Aluminum	

Acetate. Iron	Cerium
Aluminum	
Magnesia	
Zinc	
Potash	
Ammonia —	

Borax - Thios Soda, Glycamic
Sugar - Pyrogallate Potash -
Formaldehyde - Acetic Aldehyde -
Hydrazine -
Naphthalamine, + other amines
Ammonia - Alcohol,
Brominated Hydrocarbons -
Chloroformol "
Hydrochenon
Amidobenzol.
Sulphites -
Iodide Potash, Iodide Ammonia
Iodide Zinc, / Magnesium,
Bromide Ammonia, Zinc Mg K

Nitrate Ammonia
" Iron
" Copper
" Nickel
" Copper
" Magnesia
" Manganese
" Alumina
" Potash

Nitrate Zinc
" Tin
" Cadmium.

Those that show try in sealed tubes to get higher pressures –

Boil Nickel from oxalate reduced by Hydrogen in boiling solution of the described salts to see if a trust oxide can be formed –

Boil $Ni(OH)_2$ in 35% KOH 48 hours

Act on dry Ni acetate, formate etc with oxidizing agents –

act on Ni by H with gaseous oxidizers water free –

Make organic acid Ni compounds & act in non water solutions & oxidize & precipitate –

Precip $Ni(OH)_2$ from Cyanide acetate formate nitrate & organic acid salts by KOH cold & hot strongly salinated with Reducing agts – boiling hot Ni Salt Solution as well

On theory that $BiOH$ is reduced to metal by reversing & that it is not oxid'd till MnO_2 is ade formed & acts as conductor —

Precip 20% following with $MnOH_2$ & Mix with graphite dry way & put it on reversed — Other Chge Copper, Silver, Bismuth, antimony tin Cobalt, & also NaOH. Sub as Sb wire with dry — Mn —

Leclanché — Mix 6 + 4 - black oxide made by Hypo - consolidate + try in Leclanché with Zinc —

Make lot of the white MO by heating $MnOH_2$ in Melted Sl KOH, — then 6 + 4 & Reverse & try various effects — also try oxidize it to Mn_2O_3 by gaseous oxidizer etc Its got it active again

Make some anhydrous Ni_2O_3 from
ignited nitrate or granulated
then reduce & try various reducers
under various conditions, + try 644
+ various atmos to reoxidize —
also - mix with the Ni - Not Cu Bi Ag/Sb. Sn Etc
20% —
Make some Ni_2O_3 by electrolysis
of salts, Acetate H_2 in water of
strike & get enough to make grid
842 see swell —

Try $Ni(OH)_2$ in Aldehyde Formaldehyde
etc other non conducting liquids
in sealed tubes & keep high temp
for many hours —

Make grids of wool Ni Compounds
Oxalate, Phosphate Borate Tungstate
Urenate, Molybdate, Organic acid
wool compounds - put in water
solution with trace of an acid.
+ Reverse + decompose warm
Zinc to absorb acid + make wool
Compounds there when reduced
Take out thoroughly wash + wicky
Not

For separators - make mix of Oxdzd Graphite + a mucilage (linen) Gums Tragacanth etc + prelimmerize in fil furnace to a point where plastic + not altered by KOH boiling - use Mg $BaCO_3$ Oxalate Lime - Carb Sr etc -

Get from Standard Oil Co Residum nearly to Coke -

Get some large bast fibers big enough to make a Separator when shaped + prelimmerized in furnace

Get the lowest BP paraffine oil + test in battery for cooling + stop foaming -

Try fusing MnO_2 in melted KNO_3
$NaSO_3$ + other possible salts
as per Kennelly's tables - also
in salts which react in water
of Crystalization —

Make 3 + 3 Ni by hydrogen
well reduced + oxdize by 20% KOH
then if it will not try 19 + 1 Radical
+ keep on diminishing KOH +
adding Radicals - until
on transfer revealing it
shows sensitiveness,

Also Ni by Hydrogen with
20% Mercury oxide - Reverse
& then Oxidize with +
weakest Radicals —

Heat formate Ni in sealed
tube to decompose it - use
distilled water - possibly
some Zinc in top tube also

or bent tube + distil over + absorb by solid KOH in other bend of tube —
Possibly dry formate crystals in glycerine. $ZnCl_2$ $MgCl_2$ — Castor oil ~~CaCl~~ — Paraffine oil etc with bent tube + KOH work ok —

Precip $Ni(OH)_2$ with 15% BiOH + 4% HgO — + reversed — to make $BiCl_3$ + amalgamated —

ditto 15% CuO + 4% HgO — boil w/ excess KOH — Reverse to make Cu Conducting + amalgam

Leclanche — fuse together with KOH, Manganous oxide — then charge by current to per of Man + use in Leclanche.
ditto add 1/2 graphite 1/2 Manganese ox + KOH, bake together charge to Per ox Mn by Ct + chemically + try in Leclanche

Possibly 1/2 Manganous Oxide & 1/2 Cupric Ox with KOH binder a change with Current be good for Chlorides -

Possibly 1/2 Cu 1/2 Manganous Nitrate precip together & boiled with KOH & put in big lump Cup be fine after changing -

Possibly above with 2/3 Cu 1/3 Manganese would keep valls up MnO_2 acting the Catalizer to keep Cu from going to Cu_2O transferring O_2

$Fe_2(OH)_3$ possibly by precipt $Bi(OH)_3$ 20% or $Ni(OH)_2$ and also Catalizer - $CoOH$ etc with ferric hydroxide might get an Endothermic Sub as good as Ni - try 6+4 mix with various Umpf precipt

As ozone is a gaseous energetic
Oxidizer rig up apparatus
+use it in Nickel Experiments
for stands with H_2O_2 + H etc —
+ dehydrate $Ni(OH)_2$ by fused KOH, etc —

It might be good idea to make
tertiary precips with Ni

Ni OH. + 15% B. OH 5% Cu
" 15 " 10% "
15 " 15 "

+ other metals also Cu + Hg
Bi + Hg + so on —
also Stannic precips fused with
elate KOH to see if reoxidized
Cant be got anhydrous —

Heat nitrate Ni in sealed tube
absorb NO by KOH if that OK
also heat nit. glycerine — dilute
$CaCl_2$ —

Perhaps in a neg grid, Worth NiOH there could be dissolved in the KOH, a compound that would cause NiOH to become Sulfide to a Certain Extent & this not reducible would act as a Conductor or the NiOH be regular Impure SO_2 or be immersed in a Solution giving Yellow NiS –

Perhaps Ni by H. but in sealed tube with wires & filled with Dry O. well form ozone & oxidize Ni so it will be sensitive,

Perhaps a whole Battery grid Can be put in a Nickel Plating Solution & plated over 1/2 of it & then washed & be Nickel solid so Cant Expand Cups open

Make a plate of $Ni(OH)_2$ mush with say Zinc dust add to a mush when nearly dry press it & then reduce by H_2 & put in KOH & Eat out Zinc. Thus we will have a spongy plate say 1/4" thick Make Concentrated Solutions of Ni Sulfate & precip in porous wash dry & add more & make another precipitation until fairly full then press in Cups for alone in a grid till 100/100 May be soaking the —

Possibly with a strip, or in some way Ni_2O_3 can be formed Electrolytic from acetate or other proper Salt — when used in Cup it may be more dense & not swell so much — Electrolytic peroxides are more dense & crystalline — as there will only be formed a thin layer on next of lack of Conductivity a travelling strip may be best with scraping it off —

Possibly a sheet of Ni could be peroxided thin .002 or .003 of Ni_2O_3 washed + then plumbagoed + a new layer plated on

Possibly big flake graphite coved be plated thickly with coherent layer of Ni_2O_3 electrolytically + used in a grid after leaching — there wld be no basic shell formed - its only a question of getting proper salt + sodium chloride etc to get coherent deposit — This is good Expmt. might have to mix some xlne graphite to join

There is one thing in the favor all electrolytic peroxides are much more active than when made chemically

Separation – I notice that sulphate nickel + sugar evap to dryness the bottom film about 1/64 film collects + this is coherent & flexible – its probably Oxidation by reduction + solvent Carbonization of the sugar possibly some sulphur – its not affected by boiling water or ~~[illegible]~~ boiling 20% KOH = possibly a phosphor Mn – ferric nitrate etc or little nitrate of Mag Mn NH etc mixed with sugar + evap down to nearly solid + then used as binder warmed on higher heat make flexible sheet ~~[illegible]~~ etc there something in it – Sugar is changed

This idea of using Oxides which are hydrophobic is good as there are many things the sheet can be formed up such as asphalt that on heating will reduce Oxide

possibly solid powdered Disulphide Could be used mixed with the Organic material & on heating be reduced to metal & effect the Change in the organic to make it metal in KOH etc —

Phono -

As it is easy to record perfectly when not loud & especially with 20/1000 & as we can make metallic records - We might be able to amplify & make machines Mechanically

But - Probably sheet Ni 1/4 thousandth Could be plated & stripped from Aluminum plates & then performated & plated with Ni_2O_3 Electrolytically for or Even 1 inch or 1½ Could be bounded to yellow to form Reg gra —

Cassa.

Try mixing fine graphite with Nitrate Nickel so there will be 6 of graphite to 4 of Ni_2O_3 after ignition. Then powder up & put in grid - possibly Can be got so white to outdo best of chin reduced by sugar or formaldehyde or H_2O_2 & put in grid —

As the higher the temp the less H_2O of Crystallization is there in salts then perhaps $Ni(OH)_2$ precipt'd under pressure would be less colloid as the pressure was greater. Can be tried in sealed tubes the sulphate or other salt on one side & NaOH on other & whole heated to say 400 deg Fahr & tipped to below NaOH run into Ni solution

Is Hypochlorite Magnesia good in alkali if not it will work as deleaded with graphite —

Chlorite lead used water - possibly lead battery with chlorous acid also as chloric acid dont decomp Carbonates, Chlorite lead might be used in Na_2CO_3 or even KOH -

As Co_2O_3 from expelling nitrate never tried try it with 1/2 fume graphite to 1/2 of Co_2O_3 powder & put in cup possibly may be active,

A nickel salt to which is added some Sodium specolate, or than Hypo K + Gold deposits the Ni_2O_3 in a specular state make Enough for a grid & test vessel -

Lelands – Zinc & large quantity of Che Mg – a graphite + phox
Many like and make Ni OH + Mg
Ranges upon Consistent heavy
Current, also in KOH,

Uranous hydrate by boiling with H_2O
Greens black & anhydrous
Try NiOH + UOH precip by cyschem
to metallic like & works enlarged
supposed to be the metal –
UO. in formula

Make a Cell of good metal
of Fe with Hydrogen & test
Economy –

It is understood and agreed that no part of the profits shall be used as fixed capital but shall only be used to repay the holders of ordinary shares, for interest thereon and dividends thereon on the ordinary & deferred shares ~~as above provided~~ as herein provided,

In the event that ~~the profits of the Co~~ are greater than the Co requires more fixed Capital for increasing the Capacity of factories, ~~the [illegible] of the Co be~~ [illegible] ordinary shares ~~to the amount of capital used~~ ~~debentures bonds~~ that the ~~[illegible]~~ [illegible] shall be done from accumulated profits, by the declaration of dividend ~~to both the ordinary & deferred shares in the proportion of 7/10 to the deferred & 3/10 to the ordinary & the same shall be~~ by an issue of ordinary shares in the proportion of 7/10 to the deferred ~~&~~ 3/10 to the ordinary shares to represent the profits so invested

In event of liquidation the ordinary shares outstanding shall be paid at par and the balance of any assets be divided in the proportion of 7/10 to the deferred & 3/10 to the ordinary

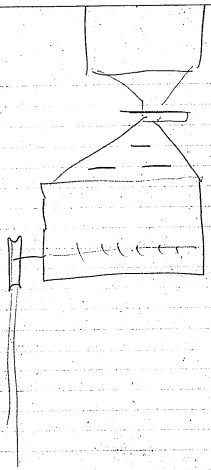
In the event of liquidation the ordinary shares shall have their principal repaid and any further sum available shall be divided in the proportion of 7/10 to the deferred & 3/10 to the ordinary

After the principal has been repaid to the holders of the ordinary shares, The clause relating to the voting power shall be amended to read that the voting power of a share of preferred or ordinary shall be equal.

The Co shall not knowingly sell bottles ~~Cocoa [illegible]~~ for Export ~~[illegible]~~ to foreign Countries

Proposed Co (forming) to supersede the Company holding
Common Stock & the holders of Preferred —

The Co shall ~~possess~~ or may absolutely, purchase
any other Co or grant the same rights
to others, or in any way ~~[illegible]~~
~~[illegible]~~ use its capital for any other
purpose than the safe keeping & [illegible] storage,
including ~~[illegible]~~ the Consent of ~~two thirds~~
holders of the ~~[illegible]~~ deferred stock —



a

6%

Issues 750.000 dollars [illegible] shares
Issue 885.000 " of [illegible] dollars
Capital 1.25 [illegible]
Leaving 110 - 750.000 dollars
at from sales of land shares received.
Leaving 110 [illegible] on hand.

1,250,000 stock
750 000 Deb –
250 000 of deb sold for cash at
500 000 " par Co –

1250 000 Stock we also get +
turn over to Deb people 375 000
of stock – which is

1 250 000
375 000
875 000 Stock Company to us

We get 875 000 stk
" 250 000 Cash

But of 875 000 we give
Cash 125 000 – leave
875 000
125 000
750 000

175 000
150 000
25
175 000
150 000

150

6 – 4

40

25 000

175
25
200
150

175 000
25 000
150 000
150 000